

Training From a Management Perspective

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Some material in this lesson was developed from work by Ron Clark N0POM, EMA Volunteer Communications Coordinator for Sarpy County, Nebraska, and by the New Hampshire ARES Rapid Emergency Deployment (RED) Team.

Recruiting and keeping volunteers is not easy. Educating them is also a challenge. It is not easy to tell someone who has been a ham for twenty years that they need to learn even more. The “I have done it all” attitude is common, especially among older hams. A few will even refuse to participate in ARES if they are required to take additional or on-going training. These are not the kind of people you really need or want in your core organization. They are less likely to work well in a group, or to take direction from others, and when the time comes to do a job, they will not be effective.

However, others will invest time and effort in learning and honing new skills if a real need is demonstrated, and if the program is interesting and challenging. A well designed training program can help to recruit and retain volunteers – the kind of volunteers you need and want. Instead of a chore, it can be the highlight of your program.

Goal Setting

It is unlikely that you will get somewhere unless you know the destination. The first step in developing any education and training program is to define the desired result. Which information and skills will your volunteers need to make your communications plan work? What does your served agency expect you to do, how, and when? What will it mean to “be successful?”

As you might guess, the first steps begin with your emergency communications plan. “Train to your plan.” This means that all training should have as its goal increasing the ability of your members to successfully implement and carry out the plan.

Skills Sets

There are many different skill sets within the Amateur Radio hobby. Few hams have them all. Some may be seasoned and skilled contesters, others may be able to design and build microwave preamplifiers on the kitchen table. Emergency communication is yet another skill set. While it shares many of the skills contained in other sets, a large number skills are exclusive to emcomm, and perhaps to your specific mission and agency.

Most of the emcomm-exclusive skills are related to message handling, operating under difficult conditions, or with specialized digital modes. Others include working with served-agency personnel and systems. When developing your training goals, consider the existing skill sets within your group, and identify gaps that need additional training.

Use “Outside the Box” Thinking

The usual ARES training program focuses on traditional basics – message handling and net operations. While these are essential skills at which everyone must be proficient, your training should extend to other areas as well.

To get and hold your group's interest, try making your first training sessions about something they know nothing about. Get some experts to come in and give a presentation or go on field trips for the training.

In preparation for the Y2K rollover, one Nebraska Public Power District asked the county emergency management agency's hams to establish a backup net between all of their various power substations, the main office, and a few key line crews at midnight on New Year's Eve. The training might have been all about nets and messages, but first the group was invited to visit the Power District's underground command center for a tour. The resulting interest meant that the County EMA had all the trained help it needed on New Year's Eve!

Think of it another way. You have a room full of ninth graders sitting at computers hooked to the Internet and you need to sell them on the idea of packet radio. Yes, they can send and receive messages from Tokyo in a matter of seconds, but ask them if they can chat live with an astronaut in the space station circling overhead, or someone in a ship at sea, on foot, or in a moving vehicle? Similarly, your members know what they can already do, but they may not be aware of what they do *not* know how to do. Once you create that mindset, participation in training exercises will improve.

Develop training exercises around the various risks your region faces. Is there a dam that could break? Hurricanes or tornados? A nuclear power plant? A military base with hazardous munitions? You first need to sell them on the idea of *why* they need training, and then more mundane net discipline and radio procedure lessons will be much easier to sell. In addition, you can build all your training around specific hazards. Do one drill on a nuclear power plant scenario, and for the next, invent a hurricane. This has two advantages. One is variety, which prevents boredom. The other is that you are training for potentially real events. This makes it more interesting and ensures that your volunteers will have had a chance to think about the response to a variety of emergency conditions.

Skill Sets for Emcomm

- Communications plan knowledge (all members, but especially leadership)
- Served agency plan familiarity (all members, but especially leadership)
- Message creation and handling (net members)
- Net operations for individual stations (net members)
- Using specific modes, equipment, and software (all members)
- Net control operations (the NCS)
- Network design and management (the Net Manager)
- Portable and field operations (covers a wide range of topics and skills)
- Field improvisation – equipment and operations – what to do when it all goes wrong (all members)
- Personal survival (all members)
- Expedient training for spontaneous volunteers (core personnel)
- Working and interacting with served agency personnel (core personnel)
- Served-agency procedures, operations, and specialized forms (all members)
- Operating served-agency communication systems (key members)
- Winlink 2000 operations and procedures
- Operating the ARES Operations Center (AOC) (ARES leadership)

Train to Your Communications Plan

Every emcomm group should have a full emergency communications plan. Regardless of whether you choose to take an “all-hazards” approach, or to plan for specific disasters, the overall training program should be specifically designed to increase the group’s ability to carry out each element of the plan. This alone will offer a wide variety of training possibilities, since most plans will cover a range of possible scenarios, modes, and skills.

Most plans will propose *ideal* network and management structures, but they need enough flexibility to deal with the unexpected. As was noted earlier, “no battle plan survives first contact with the enemy.” The same is true of emcomm plans. Think of your basic plan as framework upon which to build the *real* networks needed to deal with a particular event. Your drills should help everyone become comfortable with the core plan, and what to do when it does not work. This concept automatically expands the number of different drills you can create.

Creative Training Ideas

The “Dead Computers” drill for NCS training: (Created by Sterling Eanes AK1K)

This drill is designed to give NCS trainees “gray hair” in a hurry. In a compressed time format, it simulates the situation an NCS encounters in a net with high traffic volume, and requires strong NCS skills and good organization to handle it well.

The drill is based upon the impossible but useful premise that a nuclear electro-magnetic pulse (EMP) device has detonated and wiped out all computers and calculators in your area, but somehow has left your radios undamaged. (This impossibility is irrelevant to the purpose of the drill.) The served agency needs a large number of math problems solved, and it has asked the members of your net to do the problems in longhand (remember, no calculators!), and to check each other’s work to ensure accuracy. This is how it works:

In advance, the station playing the “served agency” distributes identical charts with rows and columns of four-digit numbers to all net members. The columns are numbered, and the rows are lettered. You can email the charts, or hand them out at an earlier meeting.

The NCS calls the net, takes check-ins, and then asks the “served agency” for directions. The agency station describes the drill scenario, and then begins asking the NCS to have certain problems solved, such as “C2 multiplied by L6.” The served agency station can choose to use any math operations he feels comfortable with, but addition will be the simplest for most groups.

Each problem will be assigned a message number by the served agency. As the served agency sends in more and more problems to be solved, the NCS must keep track of which problems he routes to whom, and then have stations pass answers to a second station to be checked and confirmed, keeping track of those as well. Once an answer has been confirmed, it can be routed back to the served agency. If two stations disagree on an answer, it is either passed back to the original station or another for re-checking until the answer is agreed upon.

The drill can go on for as long as you wish. You can make the drill more or less difficult (and time consuming) by using two, three, five, or six digit numbers, using more difficult

operations (such as multiplication or division) or by sending more or fewer problems to the net.

The Full-Scale “Tabletop” Exercise: (Courtesy of the New Hampshire ARES RED Team.) This drill simulates multiple inter-related nets, such as might occur within a Section. The difference is that it is done in one large room, such as a school gymnasium. Unlike a typical tabletop exercise in which you only talk through a plan, you actually operate the nets just as if you were in the field. Think of this as a Simulated Emergency Test (SET) all in one room! NH-ARES calls it the “Tempest in a Teacup.”

This drill has two main advantages. First, it lets each member see and experience how the entire network structure works. This is especially valuable to new members. Second, Section and local training staff can quickly see problems occurring and work to correct them.

Each local net sits around a table with its own NCS. You can have as many local nets as you have room and tables for. All the nets can be in one large room, or in separate rooms. Radios are not used to communicate within the local net – members simply speak as though they were using a radio. This takes a bit of getting used to at first, especially in a large, noisy, gym. The noise of a large room helps simulate the noise and confusion often encountered during a real event. Communications between the local net’s liaison station and other liaisons on the Section net are done with handheld VHF or UHF radios set to their lowest power settings.

Messages can be passed between net members “off the net frequency” simply by having both “stations” move to a set of chairs placed a distance from the net’s table.

An “exercise simulator” is assigned to each local net, and to the Section net. Other simulators may play the roles of served and outside agencies. These simulators periodically pass messages to each station as though they were a served agency representative at that location. One person acts as an overall scenario manager to keep the entire operation on track and on schedule. He can also play “God” from time to time by throwing new situations into the scenario, or by making changes in the schedule if the scenario is moving too fast or too slow.

The exercise scenario is developed in detail, and all messages are created and scheduled beforehand. Each exercise simulator has a package of messages to be fed into the nets at listed times. Net members have log sheets to keep track of the messages they send, and blank message forms for any net related requests. It is useful to create a computer spreadsheet with basic messages into which certain local data can be imported. This will save considerable time in message generation.

A variation of this exercise has each local net meet in a room in their own neighborhood, while the Section net operates on its usual frequency. For instance, each county’s net might meet in their EOC, with a radio for the Section net. The Section net could meet on its usual HF or VHF frequency. In this case, it is imperative that each transmission contains the phrase “This is a drill” at the beginning and end, and sometimes in the middle of a longer message.

Create dummy messages beforehand, and distribute them to each net's simulator via email well in advance. This will allow the simulator time to print and organize the messages. Use a time schedule to release each message number during the drill.

Other Core Training Ideas to Build On:

- Disaster evolutions – standby, warning, operations with increasing failures, stand-down (a great table-top discussion exercise)
- Workarounds for network and key system or equipment failures
- Call tree tests – unannounced at varied times
- Test staffing plans – what happens when someone isn't available?
- New or alternate modes – for instance, PSK63 on 2m FM?
- Use of specific agency forms
- Agency procedures, such as welfare message intake and routing
- Operation of resource nets and staging areas
- Emergency power modes – training and testing
- Simplex nets/relay techniques (no repeater/packet node)
- Your role in ARESMAT plans
- Net management for high volume traffic (passing messages off-channel)

Safe and Secure Drills

Why do we need to say, "This is a drill"? Simply, we don't want to cause confusion and panic. During a recent federally mandated nuclear power plant evacuation drill, a long message containing detailed evacuation directives was read on the state emergency management agency's VHF radio system by an inexperienced (non-ham) operator. Not once during the transmission did he say, "This is a drill." At that moment, a local television reporter walked into her office and overheard the message on her scanner. She was on the phone to the governor's office in seconds, certain that it was real. Needless to say, the governor was not amused. No one wants another H.G. Wells "War of the Worlds" panic scenario.

Another way to prevent misunderstandings like the one above is to notify served agencies, the press, and police and fire departments in advance. The press might even want to cover your exercise, so decide in advance whether you want this to occur. If you do not want press coverage, have a good and reasonable excuse ready in advance should you be asked, so that they will not think you are trying to hide something. For instance, suggest that this is a very preliminary training drill, and that they might get more out of covering the larger exercise later in the year.

Use substitutes for "hot-button" words. For instance, say "golf-balls" instead of "victims." While this may seem to violate the FCC rule against obscuring the meaning of a transmission, remember that there are no real victims! This is all make-believe. You might also say, "simulated victims" or "simulated dosimeter readings" although this can make transmissions rather more lengthy.